

PRESS RELEASE

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In-hospital deaths from ischaemic stroke and heart attack continue to decline

The National Office of Clinical Audit (NOCA) announces the publication of their fourth report from the National Audit of Hospital Mortality (NAHM). NAHM is an audit which looks at the patterns and trends of patients who die in hospital. The report highlights that there has been a significant reduction over 10 years (38%) in ischaemic stroke in-hospital deaths per 1000 admissions, from 123 in 2009 to 76 in 2018 and acute myocardial infarction (AMI) / heart attack (35%), from 74 in 2009 to 48 in 2018.

The report presents information across six medical conditions¹ AMI / heart attack, heart failure, ischaemic stroke, haemorrhagic stroke, chronic obstructive pulmonary disease (COPD) and pneumonia. NAHM uses data from 44 publicly funded hospitals in Ireland.

This report cannot be used to compare hospitals to one another. No two hospitals are expected to be the same, as hospitals have very different case mix or patient profiles.

KEY HIGHLIGHTS

- The report presents standardised mortality ratios (SMR)² for in-hospital mortality in 2018 (2016-2018 combined for haemorrhagic stroke). All hospitals were within the expected range for AMI, heart failure, ischaemic stroke, haemorrhagic stroke and COPD.
- There has been a significant reduction over 10 years (28%) in pneumonia in-hospital deaths per 1000 admissions, from 145 in 2009 to 104 in 2018.
- There has been no significant reduction over 10 years in haemorrhagic stroke in-hospital deaths per 1000 admissions, from 302 in 2009 to 252 in 2018.
- There has been no significant reduction over 10 years in heart failure in-hospital deaths per 1000 admissions, from 82 in 2009 to 77 in 2018.
- There has been no reduction over 10 years in COPD in-hospital deaths, with 37 deaths per 1000 admissions in both 2009 and 2018.
- Shared learnings from hospitals are once again highlighted in this report. One hospital had a statistical outlier for pneumonia in 2018; it engaged with NOCA and conducted a preliminary review. Further work is ongoing and there will be an update provided in the NAHM Annual Report 2019.
- NAHM data is now being used nationally in the Hospital Patient Safety Indicator Report (HPSIR), a monthly report of collated key performance indicators in a hospital, which is signed by the hospital CEO/General Manager and published on the Health Service Executive (HSE) website³. The inclusion of NAHM data in the HPSIR provides assurance that in-hospital mortality data is continually monitored.

Dr Colm Henry, Chief Clinical Officer of the HSE commented “I welcome the continued use of the National Audit of Hospital Mortality tool by hospitals who use it as one key part of their picture of quality of care and to support improvements. The results demonstrate the improvements in outcomes for some of the most significant illnesses in our hospitals. The work by NOCA demonstrates our commitment to learning and improvement and I would like to acknowledge their work and all who contributed from our hospitals to this report”.

NOCA was established in 2012 to create sustainable clinical audit programmes at national level. NOCA enables those who manage and deliver healthcare to improve the quality of care through national clinical audit. NOCA is funded by the Health Service Executive, National Quality Improvement Team, governed by an independent voluntary board and operationally supported by the Royal College of Surgeons in Ireland.

ENDS

NOTES TO EDITOR

Copies of the report will be available to download from <https://www.noca.ie/publications/publications-listing/P0/category/3>

- For further information or comment from Dr Jennifer Martin, Chair, NAHM Governance Committee, contact NOCA at 01 402 8577 or aislingconnolly@nocai.ie

¹ The NAHM web-based tool allows all hospitals to view and monitor all diagnoses, not just those publically reported. Diagnoses included in this report have met specific inclusion criteria, as set out on Page 9 of the National Audit of Hospital Mortality Supporting Appendix 2018.

² What is an SMR?

Standardised Mortality Ratio (SMR) is an important measurement tool that compares hospital mortality with the overall national average rate for that speciality or diagnosis. SMRs are calculated as a ratio of the actual number of deaths to the expected number of deaths among patients in acute hospitals, presented with control limits set at 99.8%. The expected number of deaths is calculated using statistical methods to risk adjust for factors that are known to impact in-hospital mortality.

- age
- gender
- the presence of certain co-morbidities based on the Charlson index (e.g. congestive heart failure, dementia, COPD)
- emergency or non-emergency admission
- admission source (home, nursing home or other hospital)
- emergency admissions within the preceding 12 months
- receipt of palliative care (as indicated on HIPE)
- indicator of deprivation (medical card)

The SMR provides a starting point to assess mortality rates and identify areas for potential improvement.

³ All Hospital Patient Safety Indicator Reports (HPSIR) are available to view here:

<https://www.hse.ie/eng/services/list/3/acutehospitals/patientcare/hospital-patient-safety-indicators-reports/>

How should the NAHM report not be used?

This report cannot be used to compare hospitals. No two hospitals are expected to be the same, as hospitals have very different case mix or patient profiles. Some hospitals will have greater numbers of patients with severe conditions e.g. hospitals such as specialist referral centres may only admit patients with more complicated conditions. SMRs, because of their statistical properties, **can only be used to examine mortality patterns within a hospital and not to compare hospitals with each other.** Furthermore, SMRs cannot be used to generate a league table of hospital mortality (e.g. attempting to rank highest to lowest).

Does an SMR outside of control limits mean the hospital in question is unsafe?

No it does not mean a hospital is unsafe.

Where a hospital's SMR is unexpectedly high or low, further examination is warranted. If a hospital's actual mortality level for a diagnosis is outside the expected range, it means that more patients died than was expected. This indicates a difference from the expected range that is unlikely to have arisen by chance alone, rather than a definitive problem with the quality of care. This could happen for many reasons:

- Data collection
- Differences in patient case mix (not accounted for by Charlson Index)
- Differences in service delivery
- Or quality of care

Hospitals should investigate an SMR which is outside the expected range to see if a reason can be identified for this result. The purpose of the SMR is to provide hospitals with a means to review their mortality and to support their efforts to identify potential areas for improvement.

How is this report different to NHQRS published by the DoH?

The methodological approach used by the Department of Health National Healthcare Quality Reporting System (NHQRS) for the selected diagnoses of AMI, haemorrhagic stroke and ischaemic stroke is the Organisation for Economic Co-operation and Development's (OECD's) direct standardised death rate. This method allows for comparison between Ireland and other countries. The reference population is based on the age and gender profile of the OECD 2010 population admitted to hospital with the selected conditions. This method is of greatest value when it compares practice across international boundaries.

NQAIS NAHM uses an indirect SMR, which adjusts for patient characteristics. This method takes account of a large number of variables which are known to impact on inpatient mortality. This allows hospitals to compare their observed death rate against the death rate that would be expected in that hospital if other variables affecting mortality could be taken into consideration. Therefore, it is an appropriate way to measure in-hospital mortality in Ireland. Due to the differences in methodology, it is not possible to compare in-hospital mortality indicators in this report against those presented by the Department of Health in the NHQRS report.